

External Transaction Manager (ETM) Services Overview

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Agenda I

- Introduction
- Data Transfer
 - The Diagram
 - The GCCS COP (Global Command and Control System - Common Operational Picture)
 - MCS/ASAS Messaging (Maneuver and Control System, All Source Analysis System)
 - Our GCCS-A AGDB
 - The ABCS JCDB (Army Battle Command System Joint Common DataBase)
 - Theatre Mode and ABCS Mode

Agenda II

- Filtering
 - Restricting Data Transfer
 - ETMSVW (new for D3.2.2)

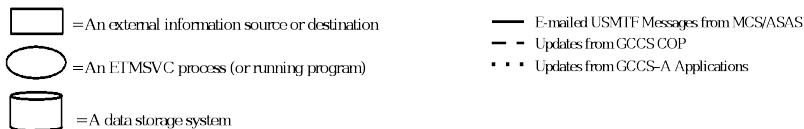
Introduction

- ETM's purpose is to transfer data between GCCS-A and external systems.
 - Data is received (retrieved) from external systems.
 - Data is sent (provided) to external systems.

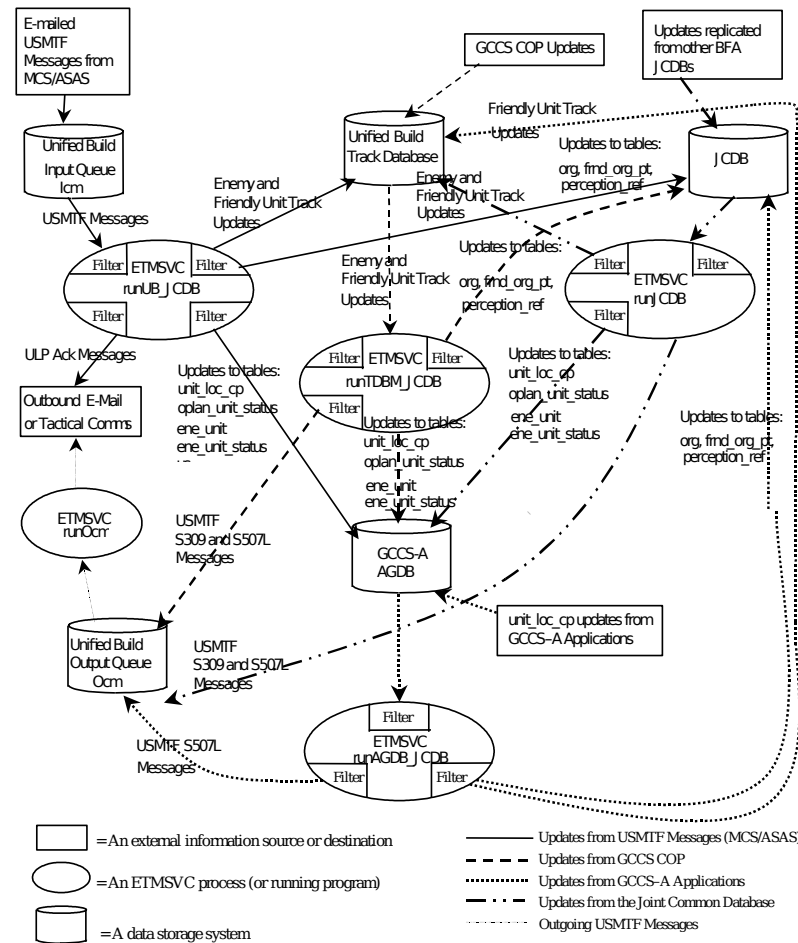
Introduction

- CSC Process Structure
 - Unix Server Processes
 - On the PES or TOC LAN Server
 - perform data exchange
 - 24/7
 - Unix GUI
 - server process management
 - configuration parameter management
 - queue and log file management

Diagram



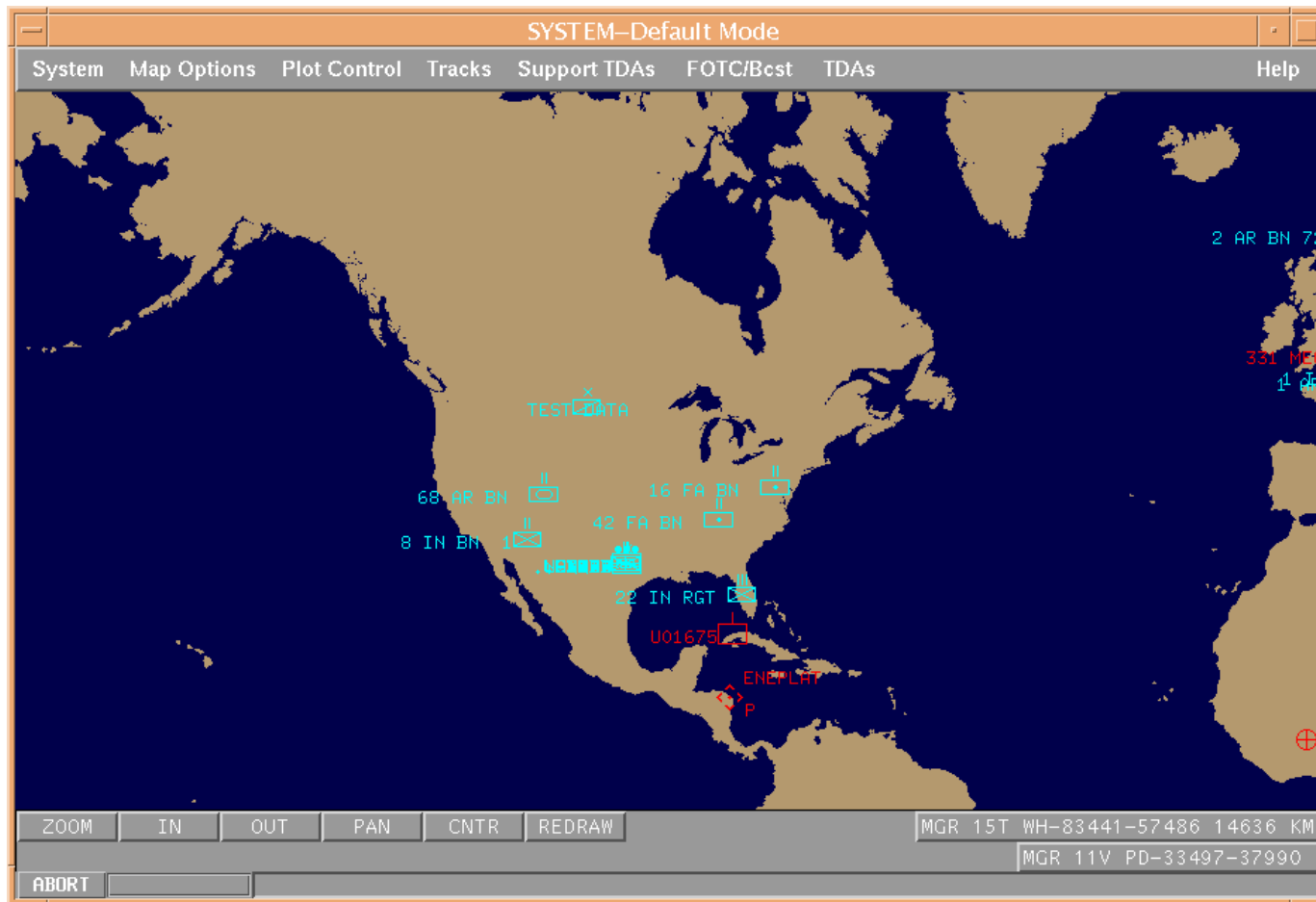
ETM Services Data Transfer - The Diagram



ETM Services Data Transfer - Components

- The Components/Data Storage Systems
 - systems that exchange data with/through GCCS-A
 - The GCCS COP
 - ASAS/MCS and USMTF Messaging
 - The AGDB
 - The JCDB
- Data
 - Friendly and Enemy Units, Neutrals, Platform
 - Cop Tracks
 - USMTF Messages
 - AGDB Friendly and Enemy Units
 - JCDB Orgs, Enemy Orgs...
- Processes

ETM Services Data Transfer - Components - the GCCS COP Chart



ETM Services Data Transfer - Components - Unified Build

- Unified Build
 - The COP Track Database (TDBM) and APIs
 - ETM uses the TDBM API to exchange unit data with the COP
 - The Unified Build Input and Output Messaging Queues and APIs
 - Both are part of the “Unified Build” (part of the COE)
 - In a future GCCS version, UCP (Universal Communications Processor) and TMS (Tactical Management System) - both parts of ICSF (Integrated C4I System Framework) will replace these components (coding and testing will be required).

ETM Services Data Transfer - Components - Messaging I

- Unified Build Incoming and Outgoing Message Logs
 - Data Storage
 - Software Re-use
 - Re-processing and other functionality
- CMP (Common Message Processor)
 - ETM uses parsing and message formatting functionality
- Simple Mail Transfer Protocol (SMTP)
 - Upper Level Protocol (ULP)
 - Text

ETM Services Data Transfer - Components - Messaging II - Addressing

ETM Message Services – Send To Address

Messaging Options

Message Type: ☒ S201 ☐ S309 ☐ S507L

Message Version: ☐ 1993 ☐ 2000

Mode: ☐ Email ☐ TCOMMS

Header Type: ☐ ULP ☐ VMF47001B

Available Addresses

Name
13COSCOM USREAR CP G3OP
3CORPS USMAIN CP A2C2 1
3PERGRP USTOC PAD PER
4INFDIV USMAIN IIP ACE FS
31AD3CORPS USMAIN CP A2C2
TEST DESTINATION 1
TEST DESTINATION 2
TEST TEST

Distribution List:

Email Address:

TCOMMS Address:

OR Address:

Select all with: Name equal to Search

Add an Address... Modify an Address... Delete Address

Selected Addresses

Name	Message Type	Message Version	Mode	Header Type
TEST DESTINATION 1	S309	1993	Email	ULP
TEST DESTINATION 1	S507L	1993	Email	ULP
TEST DESTINATION 2	S309	2000	Email	ULP
TEST DESTINATION 2	S507L	2000	Email	ULP

Select All

OK Apply Changes Cancel

ETM Services Data Transfer - Components - The AGDB

- ETM detects friendly unit location updates
 - database triggers
 - notif_queue table
 - notif_queue purger (ETM Common)
- ETM stores data in exercise or operational databases
 - ESQL/C

ETM Services Data Transfer - Components - The JCDB

- Informix (Oracle versions exist)
- The JCDB is replicated between ABCS systems
 - in particular between ASAS, MCS, and GCCS-A
- For ABCS Exercises
 - in /h/etmsvu/data/options.prf, ARCHITECTURE=1 (ABCS Mode)
- ANSI standard database
 - Warning... DBACCESS can lock JCDB tables
- ETM uses the JCDB API (Unix C/C++)
 - JCDB Versions and API/JCDB compatibility

ETM Services Data Transfer - Components - the TIS and the TLS

- GCCS-A TOC (Tactical Ops Center) Interface Server
 - JCDB, and JCDB S/R (send/receive, for replication)
 - CTP and Information Managers
 - Solaris 7
- GCCS-A TOC LAN Server
 - GCCS 3.0.2.5
 - Solaris 2.5.1
 - AGDB
 - ETM Services (using JCDB API)
 - Other GCCS-A segments

ETM Services Data Transfer - The Data - COP Tracks

- Unit Tracks
- D322 - Platform Tracks (Ships. Aircraft not processed)
- COP Unique Identifiers (UIDs)
 - Three WAN UID characters + datetime
 - COP Correlates on name
 - Maintaining the UIC/TSE MASTER KEY - UID link
 - COP Name Generation
- Real World, Live Training, Simulated
 - the COP and exercises

ETM Services Data Transfer - The Data - USMTF Messages

- S309 - Enemy Situational Awareness
 - multiple descriptive fields
 - ETM sends/receives from ASAS
- S507 - Resource (Friendly)
 - essentially a UIC and a location
 - ETM sends/receives from MCS
- Can handle 1993 and 2000 message standards
- Sender/Receivers configurable
- Address for incoming messages
 - etmsvu@machine_name

ETM Services Data Transfer - The Data -

~~The AGDB~~

- ETM Services stores friendly unit location changes
 - no friendly unit insertion, just unit locations
 - Unknown unit transfer (D3.2.2+)
 - New AGDB org, enemy_org
 - UIC not found/present, org_id storage
- ETM Services stores enemy units and enemy unit location changes

ETM Services Data Transfer - The Data -



The JCDB

- ETM stores and retrieves friendly org and friendly org location changes
- ETM stores (indirectly) and retrieves enemy orgs and enemy org location changes
 - TSE Master Key Generation - 'X1X.....'

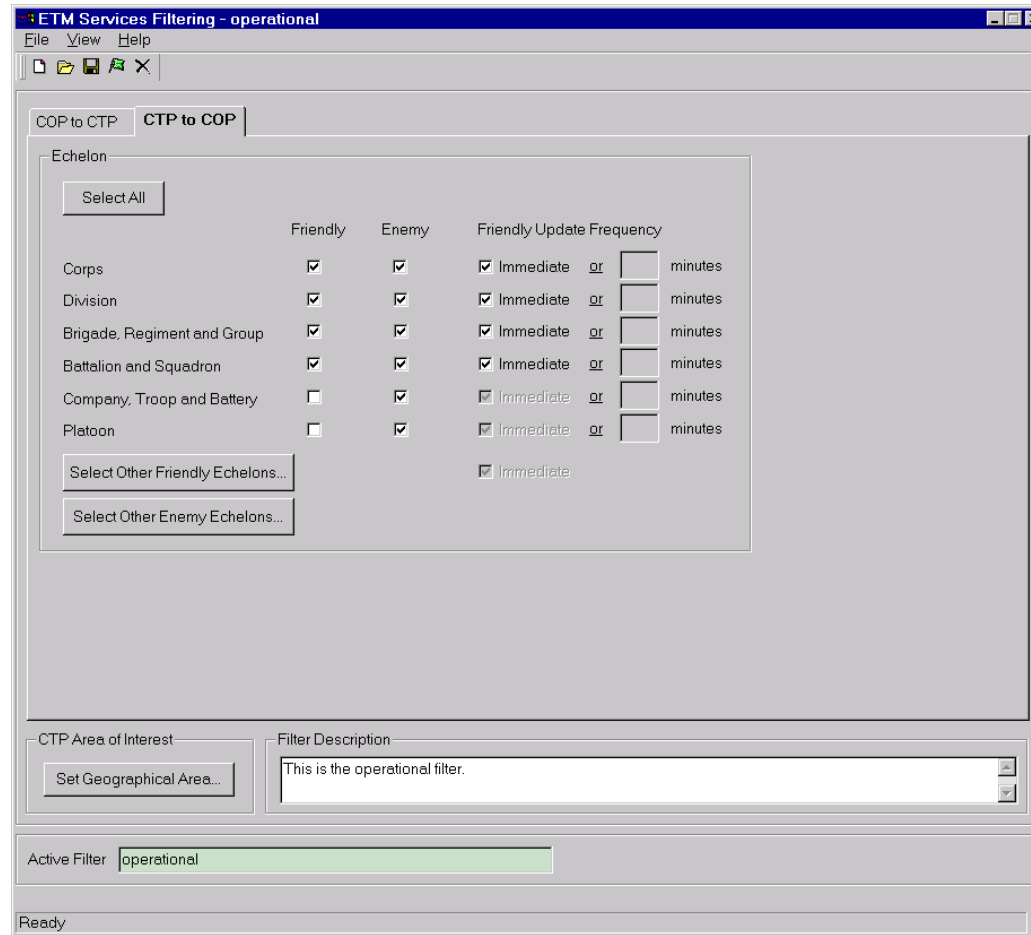
ETM Services Data Transfer - The Processes

- ABCS
 - runJCDB - from JCDB
 - runTDBM_JCDB - from TDBM
 - runAGDB_JCDB - from AGDB
 - runUB_JCDB - from Messaging
 - runOcm- outbound messaging
- Theatre
 - runTDBM - from TDBM
 - runAGDB - from AGDB
 - runUB - from Messaging
 - runOcm- outbound messaging

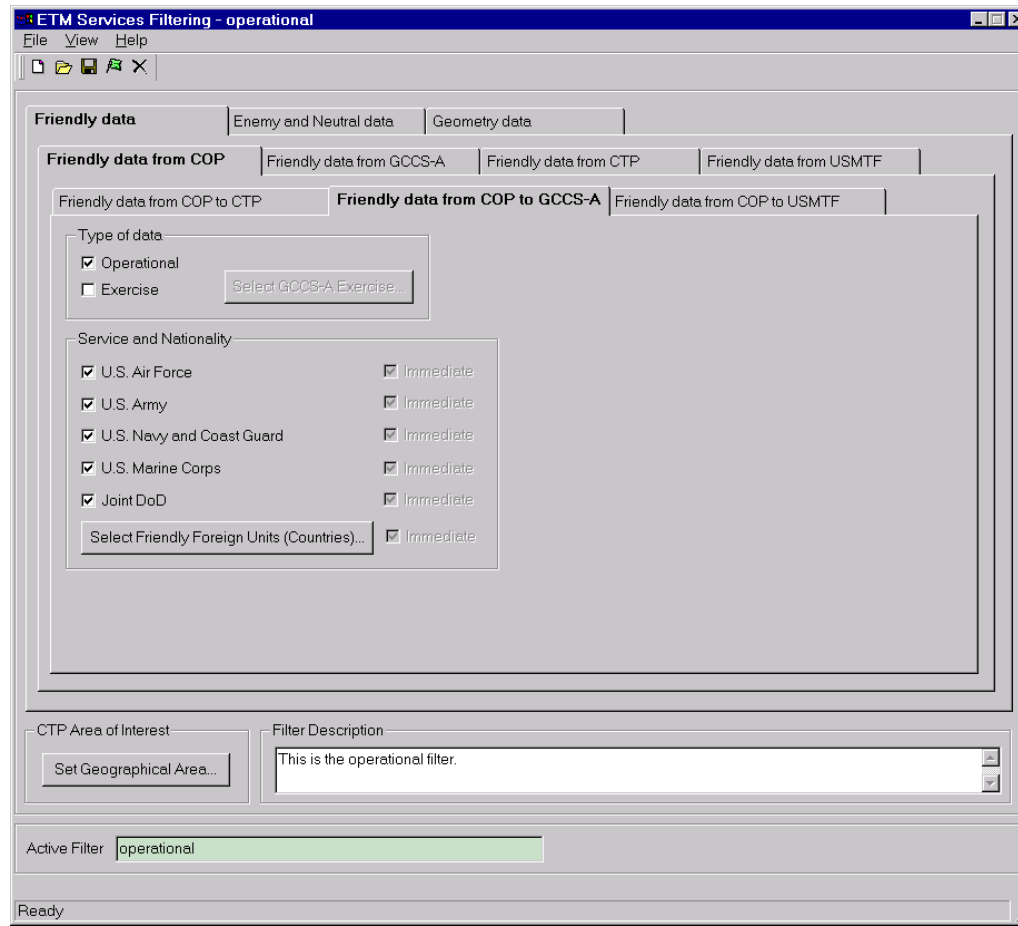
ETM Services Filtering

- User configures the data transfer
- D3.2.2+ - ETMSVW
 - on NT
 - data stored in AGDB instead of the options.prf file
 - Two modes - quick and detailed

ETM Services Filtering II



ETM Services Filtering III



References

- D3.2.5.1 ETM Admin Guide
- D3.2.5.1 ETM Services Filtering Software Users Manual
- MIL-STD-6040 (USMTF) 1998/1999+
- Software Architecture Guide for the Unified Build (UB) Software Development Environment (SDE) - SWAWARSYSCON DSE-SAG-3.0.1 29 March 1996